

Mycology News

MRL



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Volume 1, Edition 1

Welcome to the first issue of Mycology News, a newsletter dedicated to the dissemination of information on the clinical use of mycological (mushroom based) products. It is brought to you by Mycology Research Laboratories Ltd. (MRL), founded in April of 1997 to develop mycological and non-mycological products as dietary supplements.



What are the Current Nutritional Uses of Mycological Products?

Long revered in China as Taoist longevity herbs and potent adaptogens, selected mycological products have in recent years gained prominence in China and Japan in the field of cancer therapy and now increasingly as adjunct nutrition for immune compromised patients.

In Japan oncologists believe that mycological immunotherapy stimulates the host-mediated immune response, supporting the

destruction of cancer cells by the patient's own immune system. Japanese doctors routinely prescribe mushroom-based nutrition as an adjunct to western anti-cancer approaches and Krestin, an extract of one such mushroom, *Coriolus versicolor*, has for several years been one of Japan's top selling pharmaceutical products.

What is the Theoretical Basis for Immunotherapy?

According to Professor Goro Chihara of Teikyo University, in the treatment of cancer and infectious diseases, one should not rely solely on the use cytotoxic chemotherapeutic or immunotherapeutic agents, but should also augment the intrinsic host defence mechanisms. In this regard one should endeavour to increase or restore the host's ability to respond to bioactive substances such as lymphokines or cytokines by stimulating maturation, differentiation or proliferation of cells important for host defence mechanisms. (1). Substances, which can enhance these host defence mechanisms he terms Host Defence Potentiators (HDPs) (2).

Agents such as Interleukin-2 (IL-2), or Tumour Necrosis Factor (TNF) are not categorised as HDPs. Their action is generally localised, not particularly selective, and their half-life in the human body is short. Lentinan derived from *Lentinus edodes* and Krestin derived from *Coriolus versicolor*, have been identified as HDPs (3).

More recently, in France, immunostimulation coupled with anti-retroviral therapy has been approved for the treatment of immune-compromised patients with the issue of a temporary use certificate for Chiron's immunostimulant, Macrolin (aldesleukin/interleukin-2) 4.5 UM. (4) This will be the first time immunostimulation has been used in association with anti-retroviral treatment in HIV infection in the West. (5)

FOOTNOTES:

(1) Medical Aspects of Lentinan Isolated From *Lentinus Edodes* (Berk.) Sing. by Goro Chihara - Biotechnology Research Centre, Teikyo University, Nogawa 907, Miyamae-ku, Kawasaki 213, Japan. Mushroom Biology and Mushroom Products. Page 237. Proceedings of the Second International Conference - University Park, Pennsylvania, June 9.12, 1996, Edited by D.J.Royce.

(2) Ibid, Chapter 27

(3) Ibid Page 238

(4) SCRIIP-World Pharmaceutical News, No 2473, September 7th, 1999, page 3

(5) Ibid, page 3



Coriolus Versicolor growing in the wild

What Mushroom-based Research has been conducted in the area of Immune-support?

In Japan the use of mycological products, including Maitake, Reishi, Coriolus and Shiitake for immune support is well established. However, there is a need for further high quality Western research to confirm the immune support function of mycological products.

In two preliminary studies, Coriolus versicolor supplementation was found to support immune function in HIV positive patients. The studies were conducted in England and Italy and were presented at the 10th International Congress of Mucosal Immunology in Amsterdam on June 28th, 1999.

Both studies had a small sample size, and researchers determined that further trials are needed to confirm the impact of Coriolus supplementation on the immune system of HIV positive patients. Preliminary results, however, were promising. John Tindall presented results from the English study.

For more information on Coriolus versicolor supplementation please review John Tindall's presentation entitled "Mushroom Nutrition" given on June 2nd, 1999 at Middlesex University (<http://www.phytochemistry.freeseerve.co.uk>)

Applications for Mycology in the Veterinary Field

Initial trial work suggests that Coriolus versicolor may also offer significant benefits in the veterinary care of dogs and cats.

Preliminary reports from UK vets using Coriolus versicolor in trials on dogs and cats with a variety of tumours, including osteosarcoma, squamous cell carcinoma and thyroid tumour indicate that the pets have shown marked improvement in energy, well-being, appetite and quality of life.

Whilst further trials are ongoing to gather more detailed data, it is apparent that Coriolus is offering practitioners the opportunity of minimising distress in terminally and chronically ill pets, and their owners the comfort of positive involvement in their animals' long-term care.

For further information on Coriolus versicolor for administration to dogs and cats please contact ANIMAL ALTERNATIVES PO Box 289 Richmond Surrey TW10 7XH. Telephone 0802 940 3725; Facsimile 0802 332 2054; e-mail: info@animal-alternatives.co.uk

FOCUS ON A MUSHROOM – Cordyceps sinensis

(Excerpted from Medicinal Mushrooms by Christopher Hobbs, pub. Interweave Press, 1986)

As well as their immuno-stimulatory properties, medicinal mushrooms have a long history of use, both as general and as sexual tonics. The prime example of such a mushroom is Cordyceps sinensis.

Known in Chinese as *Dong Chong Xia Cao*, 'Winter Insect, Summer Grass', this unique mushroom grows in the wild as a parasite on the larvae of Lepidoptera (moths); the club or finger-shaped fruiting body emerging in the Spring time. Growing in high mountain grasslands at altitudes of over 3,000m and collected at the summer equinox before the last snows have melted, it has long held a special place within the Chinese materia medica.

Revered as a tonic par excellence for severe depletion and weakness, as well as for its ability to treat "impotence and seminal emissions with aching of the loins and knees" it was so rare and considered so precious that originally it was reserved exclusively for use within the Emperor's palace.

Animal studies have shown its regulatory effect on blood lipid levels, as well as increased spermatogenesis in mice and rabbits. Human clinical studies have confirmed its value in the treatment of male sexual dysfunction. In one clinical trial a dose of 1g/day was given in 155 cases of sexual hypofunction for 40 days with 46 of the patients able to resume a normal sexual life and 64.15% showing improvement versus 31.57% treated with a placebo. An increase in 17-hydroxycorticosteroid and 17-ketosteroid levels was demonstrated in these patients. (Yang et al, 1985)



Malcolm Clark, one of the founders of MRL, on a field trip to collect authentic Cordyceps sinensis mycelium in the remote Himalayas near the Nepal/Tibet border.



Measuring growing conditions of Cordyceps sinensis in the wild

In China today, Cordyceps sinensis is regularly used to regulate and support the gonads and as a lung and kidney tonic. It is used specifically for excessive tiredness, persistent cough, impotence, debility and anaemia. In addition it is known as an anti-asthmatic and anti-cancer agent.

Because of its lung strengthening properties, Cordyceps sinensis was taken regularly as part of their training regime by the record breaking Chinese athletes of 'Ma's Army' and is particularly recommended as a nutritional supplement for the elderly, for whom it is felt to be as efficacious as ginseng.

Fortunately, MRL Ltd., now grows authenticated Cordyceps sinensis on natural non-animal substrates, thus making its benefits available at affordable prices to a much wider market.

Where Can I Find More Information on Mushroom Nutrition?

1. Mushrooms, An Exploration of Tradition, Healing & Culture by Christopher Hobbs, L.Ac. Interweave Press Inc. This book is available at a special price of £10.00, plus £1.95 postage and packing, from MRL distributors (see contact on Page 4).

2. The Scientific Rediscovery of Ancient Chinese Herbal Medicine: Cordyceps sinensis - Part I by Jia -Shi Zhu, M.D. , Ph.D., George M. Halpern, M.D. , Ph.D., and Kenneth Jones. The Journal of Alternative and Complementary Medicine. Vol (4), Number 3, 1998, pp. 289-303 Mary Ann Liebert, Inc.

3. A review of the First Annual Symposium on Mushroom Nutrition held on June 2nd, 1999 at Middlesex University <http://www.phytochemistry.freemove.co.uk>

4. John Tindall's seminar entitled "The Use of TCM in Treating the Side-Effects Associated with the HIV Virus" to be held on the first day of the Anglo-Dutch Symposium entitled "Defining the Profession: Meeting the Challenges of the Future". Saturday, November 20th, 1999 at 16:45 in Room C of the Grand Hotel Krasnoplosky in Amsterdam, Holland.
For reservations please contact Ms. Portiers at Tel: 31-23-524-1010.

What Products does MRL Produce?

Mycological Products				
Brand	Latin	Japanese	Chinese	Presentation
Coriolus-MRL	Coriolus versicolor	Kawaratake	Yun-Zhi	90 tablets x 500 mg
Cordyceps-MRL	Cordyceps sinensis	Tochukas	Dong Chong Xia Cao	90 tablets x 500 mg
Ganoderma-MRL	Ganoderma lucidium	Reishi	Ling Zhi	90 tablets x 500 mg
Maitake-MRL	Grifola frondosa	Maitake		90 tablets x 500 mg
Triton-MRL	33% Cordyceps sinensis	Tochukas	Dong Chong Xia Cao	90 tablets x 500 mg
	33% Ganoderma lucidium	Reishi	Ling Zhi	
	33% Letinula edodes	Shiitake	Xiang Gu	
Non-Mycological Products				
Ginger-MRL	Zingiber officinale			30 tablets x 240 mg
Green Tea-MRL	Camellia sinensis			30 tablets x 240 mg
Soya Isoflvone-MRL	Soya			30 tablets x 40 mg

How are the MRL Products Produced?

MRL utilises proprietary Japanese production technology to cultivate selected strains of the different mushrooms in California. The strains have been selected for their overall bioactivity and for their stability (purity). The cultivation process is in accordance with the California Organic Food Act of 1990.

These mycological products are not extracts, but instead contain both the mycelium and primordia (young fruitbody) of the mushroom cultivated into a biomass on an edible,

sterile (autoclaved) substrate. The cultivation process ensures that the biomass is free from contamination by other fungi or bacteria and that pesticides and heavy metals are absent.

Following cultivation, the biomass is dried, powdered and tableted to pharmaceutical Good Manufacturing Practice (GMP) standards at the licensed pharmaceutical factory of Essential Nutrition Ltd. in Brough, East Yorkshire, UK.



January 2000 Issue of **Mycology News**

The January 2000 Issue of Mycology News will focus on the theme Chronic Fatigue Syndrome and Mushroom Nutrition. We welcome practitioners to email all clinical questions or articles for inclusion to: info@aneid.pt by November 30th, 1999.

Mycology Research Laboratory Products are available from the following Distributors:

USA & LATIN AMERICA

USA East Coast

To The Point Inc.
USA Distributor to Independent
Pharmacy Chains
15 Vernon Avenue, Unit 6
Newport,
Rhode Island 02840, USA
Tel: 1 401 841-5937
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Emerson Ecologics Inc.
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18 Lomar Park

Pepperell MA 01463, USA
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Fax: 1 978 433 0099
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USA West Coast

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